



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,991	03/19/2004	Tomohiro Nakajima	250487US2	6921

22850 7590 06/13/2007  
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER	
CHERRY, EUNCHA P	

ART UNIT	PAPER NUMBER
2872	

NOTIFICATION DATE	DELIVERY MODE
06/13/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com  
oblonpat@oblon.com  
jgardner@oblon.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/803,991	<b>Applicant(s)</b> NAKAJIMA ET AL.	
	<b>Examiner</b> EUNCHA P. CHERRY	<b>Art Unit</b> 2872	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 April 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) 1-17, 19-23, 27-51 and 53-56 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18, 24-26, 52 and 57-60 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/20/06</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 18, 24-26, 52, 57 and 58-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al (US 5,801,746) in view of Kato (US 2001/0035943 A1).

Yamaguchi et al discloses an optical scanner comprising a plurality of light source units spaced from each other along a first direction (Fig. 2, 3), each having an optical axis along which a light beam from the light source unit is emitted; a deflection unit that deflects the light beams together in a single plane at an angle with respect to the light beams and scans the light beams along a second direction perpendicular to the first direction (5 and see rays incident on 5); a plurality of imaging units that form an image with each of the light beams on a corresponding surface to be scanned (Fig. 1, 39); a housing

Art Unit: 2872

unit that holds the light source units, the deflection units, and the imaging units (Fig. 1, 100), the housing unit including a beam merging unit (13) located on the axes between the light source units and the deflection unit (13 is disposed between 3 and 5), configured to direct the light beams to the deflection unit such that distances between the light beams along the second direction are decreased in a sequence in which the light beams are arranged, and a beam turning unit that turns the light beams scanned by the deflection unit in a sequence corresponding to the sequence (see rays in Fig. 1), and further comprising a plurality of pre-deflection imaging units each located on one of the optical axes between the beam merging unit and the light source unit (17), wherein respective distances between light source units and the pre-deflection imaging units differ from each other relatively to a sequence in which the light source units are aligned in the first direction (see the locations and the distances between 3 and 13 in Fig. 2), a transfer unit that transfers the toner images onto a sheet of paper (see Fig. 1, 62).

Yamaguchi et al does not disclose the plurality of imaging units that include a plurality of toroidal lenses having an optical face tangle error correction function of the deflection unit. However, Kato discloses a toroidal lens having an optical

Art Unit: 2872

face tangle error correction function of the deflection unit (Fig. 2 and see paragraph 76). It would have been obvious to one of ordinary skill in the art to use toroidal lens of Kato in the plurality of imaging units of Yamaguchi for the purpose of eliminating any tangle error of the deflection surface of the polygon mirror so that the high resolution can be achieved by the imaging forming apparatus.

### ***Response to Arguments***

3. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.


### ***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to EUNCHA P. CHERRY whose telephone number is 571-272-2310. The examiner can normally be reached on M-F 6:30-4:00, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2872

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



EUNCHA P. CHERRY  
Primary Examiner  
Art Unit 2872

6/4/07